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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/965,987	09/27/2001	Byron G. Scott	H0001705	5157

128 7590 01/15/2003

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EXAMINER

VORTMAN, ANATOLY

ART UNIT	PAPER NUMBER
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2835

DATE MAILED: 01/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n N .

09/965,987

Applicant(s)

SCOTT ET AL.

Examiner

Anatoly Vortman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 September 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 25-31 and 36-41 is/are allowed.
- 6) ☒ Claim(s) 1-24, 32-35 and 42-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 12, 23, 24, and 32-35, are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Regarding claim 12, claim recites “temperature sensor is electrically being coupled between a second different two of the electrically isolated terminals”. The aforementioned recitation contradicts with the recitation of parent claim 1, which states that “electrical temperature sensor...sharing one or more common terminals”.

Regarding claims 23 and 24, claim 23 recites “temperature sensor is electrically coupled respectively to the third and fourth electrical terminals”. The aforementioned recitation contradicts with recitation of parent claim 13, which states that “electrical temperature sensor...electrically coupled to the snap-action thermal switch”.

Regarding claims 32-35, claim 32 recites “electrical temperature sensor is coupled to the third and fourth terminals in an independent circuit from the electrical contacts actuated by the disc actuator to provide an independent output representative of the sensed temperature thereon”.

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The aforementioned recitation contradicts with the recitation of parent claim 25, which states that “an electrical temperature sensor sharing one or more of the first and second terminals”.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 22 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

The claim is vague and indefinite because reference to a particular model number of a thermal sensor (AD590) makes the claim inherently vague and indefinite as product lines and/or particular models (under the same model numbers) are subject to change and/or revision.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-5, 8-11, 13-21, and 42-45, are rejected under 35 U.S.C. 102(b) as being anticipated by US/4,306,210 to Saur.

Regarding claim 1, Saur disclosed (Fig. 3, 4) a device comprising: a positive action thermal switch (1, 8, 9', 16, 26, 27) having at least two mutually electrically isolated terminals

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(1, 9'); and an electrical temperature sensor (31) integral with the positive action thermal switch (1, 8, 9', 9'', 16, 26, 27) and sharing one or more common terminals (1).

Regarding claim 13, Saur disclosed a two-terminal snap action thermal switch (1, 8, 9', 16, 26, 27) structured in a normally open configuration (column 3, lines 28+); and an electrical temperature sensor (31) thermally and electrically coupled to the snap-action thermal switch.

Regarding claim 2, Saur disclosed that said switch is a snap-action thermal switch (column 4, lines 25+).

Regarding claims 3 and 4, Saur disclosed that a pair of terminals (1, 9'') are mutually electrically isolated when the snap-action thermal switch (1, 8, 9', 9'', 16, 26, 27) is open and the integral electrical temperature sensor (31) is electrically coupled to provide an output on said pair of electrically isolated terminals and said terminals (1, 9') are shorted when said switch is closed upon sensing an ambient temperature that is higher than a predetermined set point of the snap-action thermal switch (column 3, lines 28+).

Regarding claim 5, Saur disclosed that said temperature sensor (31) is mounted on an interior surface of the snap-action thermal switch (Fig. 3).

Regarding claims 8, and 16-19, Saur disclosed that the snap-action thermal switch is structured having three terminals (1, 9', 9'') being mutually electrically isolated, two (1, 9') of the three terminals being shorted together when electrical contacts (16, 27) mounted on the two terminals are closed upon sensing an ambient temperature that is higher than a predetermined set point of the snap-action thermal switch (column 3, lines 28+), wherein one (1) of said terminals is shared by one terminal of the integral temperature sensor (31); and the integral electrical

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temperature sensor (31) is electrically coupled to provide an output on a third one (9'') of the electrically isolated terminals.

Regarding claims 9 and 20, Saur disclosed that a first one (1) of the two terminals (1, 9') is structured for being coupled to a voltage source (35) and a second one (9') is structured for being coupled to a load (II); and the integral electrical temperature sensor (31) includes one terminal electrically coupled to the first one (1) of the two terminals that is structured for being coupled to a voltage source (35) and a second terminal coupled (via contact ring 32, 33) to the third one (9'') of the electrically isolated terminals.

Regarding claims 10, 11, and 21, Saur disclosed that said temperature sensor (31) is resistance thermal device (RTD) or a silicon transducer (column 3, lines 44+).

Regarding claims 14 and 15, Saur disclosed that said temperature sensor (31) is mounted on an interior surface of the switch (Fig. 3) or on an exterior surface of said switch (column 4, lines 43-45).

The recitation of the claims directed to the fact that said sensor is mounted "using a thermally conductive bonding agent" has not been given patentable weight, since said "thermally conductive bonding agent" is not considered to be a part of the structure of the device, since it has not been positively set forth in the claims, thus rendering said recitation (i.e. "using a thermally conductive bonding agent") to be descriptive only of the way said switch was been put together, i.e. of the assembly method of the device. It was settled, that even though the claims are limited by and defined by the recited process, the determination of patentability of the product is based on the end product itself, and does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior

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art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985).

Regarding claims 42-45, the method steps recited in the claims are inherently necessitated by the device structure as taught by Saur.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 6 and 7, are rejected under 35 U.S.C. 103(a) as being unpatentable over Saur in view of US/5,422,788 to Heinen et al., (Heinen).

Regarding claims 6 and 7, Saur disclosed all of the claims limitations as apply to claims 1, 3, and 5 above, but failed to disclose that a thermally conductive epoxy bonding agent is disposed between said temperature sensor (31) and the surface of the thermal switch.

Heinen disclosed (Fig. 1) an electrical device, wherein a heat generating component (11, 13) is adhesively bonded to a heat sink (15) by a thermally conductive epoxy (17) in order to augment the thermal coupling between said component (11) and said heatsink (15), and to enhance the integrity of the device (column 1, lines 65+ and column 2, lines 1+).

Since the inventions of Saur and of Heinen are, in part, directed to the same problem, (i.e. providing adequate thermal coupling between two distinct components of the device), the

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purpose of the thermally conductive bonding agent used in the device of Heinen would be recognized in the invention of Saur.

It would have been obvious to a person of ordinary skill in the arts of thermal conduction and heat exchange at the time the invention was made to dispose the heat conductive epoxy bonding agent as taught by Heinen between the surface of the switch and the electrical temperature sensor (31) in the device of Saur, in order to augment thermal coupling between said switch and said sensor and to enhance the integrity of the device.

Allowable Subject Matter

9. Claims 25-31 and 36-41 are allowed.

10. The following is a statement of reasons for the indication of allowable subject matter:

independent claims 25, 36, and 39, are reciting "an upright tubular spacer affixed to and projecting from the one side of the header".

The aforementioned recitations in combination with remaining limitations of the claims, are believed to render said independent claims and subsequently all of the depended claims 26-35, 37, 38, 40, and 41 patentable over the art of record.

Conclusion

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11. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure:

US/6075436, 4842419, 5892428, 4037316, 4166268, and 5048974 disclosed thermal switches with temperature sensors.

US/4568904, 5828284, 5877670, 6078246, 3768057, and GB/2135128 disclosed thermally responsive switches.

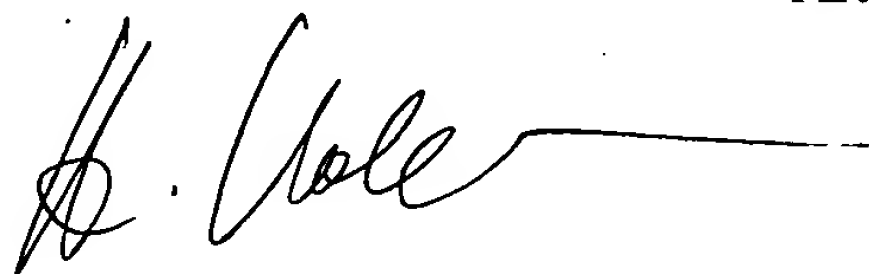
12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anatoly Vortman whose telephone number is 703-308-7824. The examiner can normally be reached on 9:30-6:00, Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Darren Schuberg can be reached on 703-308-4815. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3431 for regular communications and 703-305-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1782.

Anatoly Vortman
Primary Examiner
Art Unit 2835

A.V.
November 8, 2002

A handwritten signature in black ink, appearing to read 'A. Vortman', followed by a horizontal line extending to the right.